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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,620	02/02/2004	Yoshiaki Mochizuki	04077/LH	2308

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EXAMINER

GARCIA JR, RENE

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/770,620

Applicant(s)

MOCHIZUKI, YOSHIKI

Examiner

Rene Garcia, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-9 and 12-17 is/are rejected.
- 7) ☒ Claim(s) 2 4 5 10 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 28 March 2006. These drawings are acceptable.

Claim Objections

2. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The storage section has previously been claimed with respect to claim 14 and how the driving waveform information is obtained is not given patentable weight in a structure claim since its recitation does not define any structural difference related to ink jet head or storage section.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosono et al. (US 2002/0036669).

Hosono et al. disclose the following claimed limitations:

*regarding claims 1, 14 and 16, inkjet head/recording head, 1/ inspecting method comprising: (ABS)

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*filling an inkjet head with inspecting ink (ABS – has ink therefore has to be filled prior to inspection; no limitation(s) have been set forth limiting either a.) the inspecting ink and image recording ink are different b.) the inspecting ink and the image recording ink are not different)

*measuring a driving waveform the inkjet head shows (fig. 3; paragraph 0145 – measuring ink amount to measure Natural Period T_c)

*correcting the measured driving waveform based on a correlation formula (figs. 5 & 7; paragraphs 0165 & 168), which is obtained beforehand based on image recording ink the inkjet head uses for image recording

*setting the inkjet head to have a driving waveform based on a result of correction (paragraphs 0156 & 0188)

*regarding claim 3, applying a driving waveform corrected based on the correlation formula to one of a plurality of ranks determined based on a minimum resolution unit of the driving waveform (paragraphs 0188 & 0156)

*wherein the driving waveform corrected based on the correlation formula is a driving waveform corresponding to a rank to which the measured driving waveform is applied (paragraphs 0188 & 0156)

*further regarding claims 14 and 16, storage section which stores driving waveform information (paragraph 0100)

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5. Claims 8, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (US 2002/0167558)

*regarding claims 8, 15, and 17, inkjet head/1/ inspecting method comprising: (ABS)

*filling an inkjet head/1/ with inspecting ink (ABS – has ink therefore has to be filled prior to inspection; no limitation(s) have been set forth limiting either a.) the inspecting ink and image recording ink are different b.) the inspecting ink and the image recording ink are not different)

*measuring a driving voltage the inkjet head shows (paragraph 0073 – measure the capacitance which is a driving voltage for the print head)

*correcting the measured driving voltage based on a correlation formula, which is obtained beforehand based on image recording ink the inkjet head uses for image recording (paragraph 0098 & 0102)

*setting the inkjet head to have a driving voltage based on a result of correction (paragraph 0102)

*further regarding claims 15 and 17, storage section further stores driving voltage information (paragraph 0044 & 0102)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosono et al. (US 2002/0036669) in view of Taguchi et al. (US 2004/0080596).

Hosono et al. does not disclose the following claimed limitation:

*regarding claim 6, image recording ink is oil ink

Taguchi et al. disclose the following:

*regarding claim 6, image recording ink is oil ink (paragraph 0003)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, oil ink as taught by Taguchi et al. into Hosono et al. for the purpose of improving color purity and density.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosono et al. (US 2002/0036669) in view of Ishikowa (US 2003/0189609).

Hosono et al. does not disclose the following claimed limitation:

*regarding claim 7, image recording ink is ultraviolet ink

Ishikowa discloses the following:

*regarding claim 7, image recording ink is ultraviolet ink (paragraph 00063)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, ultraviolet ink as taught by Ishikowa into Hosono et al. for the purpose of adhesion and hardening properties when exposed to ultraviolet light.

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9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (US 2002/0167558) in view of Asaka et al. (US 6,398,331) and Taguchi et al. (US 2004/0080596).

Kojima disclose all the claimed limitations except for the following:

*regarding claim 9, performing a printing test based on a driving voltage set for the inkjet head, wherein the inspecting ink contains a dyeing agent

Asaka et al. disclose the following:

*regarding claim 9, performing a printing test based on a driving voltage set for the inkjet head (fig. 15; col. 1, lines 56-59 and ABS) for the inkjet head taught by Asaka et al. into Kojima for the purpose of improving printing throughput.

Taguchi et al. discloses the following:

*regarding claim 9, ink contains a dyeing agent (paragraph 0005 and 0006) for the purpose of having hue and fastnesses sufficient for ink-jet recording

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize performing a printing test based on a driving voltage set for the inkjet head, wherein the inspecting ink contains a dyeing agent as taught by Asaka et al. and Taguchi et al. into Kojima for the purpose of improving printing throughput and having hue and fastnesses sufficient for ink-jet recording.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (US 2002/0167558) in view of Taguchi et al. (US 2004/0080596).

Kojima disclose all the claimed limitations except for the following:

*regarding claim 12, image recording ink is oil ink

Taguchi et al. disclose the following:

*regarding claim 12, image recording ink is oil ink (paragraph 0003)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, oil ink as taught by Taguchi et al. into Hosono et al. for the purpose of improving color purity and density.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (US 2002/0167558) in view of Ishikowa (US 2003/0189609)

Kojima disclose all the claimed limitations except for the following:

*regarding claim 13, image recording ink is ultraviolet ink

Ishikowa discloses the following:

*regarding claim 13, image recording ink is ultraviolet ink (paragraph 00063)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, ultraviolet ink as taught by Ishikowa into Kojima for the purpose of adhesion and hardening properties when exposed to ultraviolet light.

Response to Arguments

Applicant's arguments filed 28 March 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., inspecting ink and image recording ink are different from one another; page 6 last paragraph continued on page 7; related to independent claims 1, 8 and 14 primarily) are not recited in the rejected claim(s).

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Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In addition, Hosono et al. (US 2002/00366609) teaches measuring a driving waveform (indirectly, since no limitations have been presented to how measurement is performed) and supported in paragraphs 0145, 0156-0159, in that determination of the natural period T_c of the ink pressure chamber correlates to pulse TP1 which is adjusted to eject a desired amount of ink.

In response to applicant's argument presented on page 8, second paragraph, that Kojima (US 2002/0167558) fails to teach or suggest measuring a driving voltage. Kojima does teach this claimed limitation as presented in figure 4 and paragraphs 0098-0107. Limitations have not been presented to how the measurement takes place only that a measurement occurs to determine a driving voltage, the fact that Kojima relies on two main factors (capacitance and nozzle diameter) to calculate such is moot.

In regards arguments related to claim 14, on page 5 last paragraph continued on page 6, the method of how driving waveform information has been obtained is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. It is noted that only the structural limitations provided with respect to claims 15-17 have been examined and any method limitations disclosed related to how information is obtained has not been given patentable weight since they provide no structural limitations.

Allowable Subject Matter

12. Claims 2,4,5, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

13. The primary reason for the allowance of claim 2 is the inclusion of the method steps being performing a printing test based on a-driving waveform corresponding to a rank to which the measured driving waveform is applied. It is this step found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 10 is the inclusion of the method steps being performing adding a correction value to the measured voltage, the correction value being obtained based on standard ink serving as a standard of the inspecting ink. It is this step found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communications with the USPTO

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Rene Garcia Jr
06/06


STEPHEN MEIER
SUPERVISORY PATENT EXAMINER